FLUORIDE SUPPLEMENTATION

I. INTRODUCTION

The daily administration of individualized dietary supplements of sodium fluoride is recommended only for children living in areas where community water fluoridation is not available. Supplement fluoride has been shown to benefit primary as well as permanent teeth. It should be prescribed on a daily basis from age 6 months until approximately 16 years of age to provide the maximum benefits.

II. CALCULATING THE CORRECT DOSE

Because of the potential for increased fluorosis, the recommended dose for fluoride supplementation was most recently updated by an expert panel convened by the Council on Dental Therapeutics of the American Dental Association in January 1994. The t44able below shows the current schedule with the latest modifications.

CURRENT SCHEDULE

	Parts per million fluoride in water supply		
Age of Child	Less than 0.3ppm	0.3 to 0.6 ppm	Greater than 0.6 ppm
Birth to 6 months	0	0	0
6 mos to 3 years	0.25 mg	0	0
3 to 6 years	0.50 mg	0.25 mg	0
6 to 16 years	1.0 mg	0.50 mg	0

The changes to the schedule have been approved by the American Academy of Pediatric Dentistry, the American Academy of Pediatrics, and the Council on Dental Therapeutics of the ADA. **The North Carolina Oral Health Section recommends this sche dule for your use.** The following steps should help you determine the need and dosage for each child for whom you are considering supplements:

A. ANALYZE HOME WATER: If the child's home water source is not a fluoridated community system**, always have a sample of the home water analyzed for the fluoride content before prescribing a fluoride supplement** (See Section III for details). If the child drinks significant amounts of water from more than one source of unknown fluoride content, the other source(s) should be analyzed as well.

B. ESTIMATE OTHER SOURCES OF FLUORIDE: If the child is drinking water from multiple sources that contain various amounts of fluoride, one must estimate the percent of the daily water intake from each source and adjust the dose accordingly. For instance, if a five-year-old child consumes well water at home with no fluoride, but goes to day school in town where the water is fluoridated at 1 ppm fluoride, one must estimate the water consumption from each source. If it appears that the child consumes about half his water from each source, the net result would be the same as if the child were drinking water containing 0.50 ppm. One should then refer to the chart to determine the correct dose (0.25 mg/day). A variety of similar circumstances can occur. In any case, it is important to **thoroughly understand** the child's total systemic fluoride exposure and to use sound judgement in calculating the dose.

   Keep in mind that many soft drinks and reconstituted juices are often processed with fluoridate water, and this may lead to significant fluoride intake. If you are unable to make an assessment of the child's daily fluoride intake, it is better not to prescribe supplements at all. Inappropriate supplementation carries a high risk of dental fluorosis.

C. DETERMINE DOSAGE FROM SCHEDULE: When the fluoride content of the water has been determined, that value and the child's age should be matched on the above cart to arrive at the correct supplement dose.

D. PRESCRIBE FOR SIBLING(S): The results obtained from water fluoride assaying may also be utilized in determining the proper fluoride supplement dosage for the patient's siblings under the age of 16. This provides an excellent opportunity to provide caries preventive benefits to other family members without the parent incurring additional costs.

E. MONITOR PERIODICALLY: It is important to periodically monitor patients and siblings on fluoride supplements. The following items should be reviewed every six months.

- ? Proper dosage relative to current age;
- ? Change in fluoride intake that might result through community water fluoridation, home well construction, and prescriptions for fluoride supplements from other health professionals; and
- ? Changes in where the child spends portions of his or her waking hours, and the fluoridation status of the water consumed at each place.

Remember that if there is doubt about the amount of fluoride contained in the water supply, **sample** the water first, **obtain** the results and then **calculate/prescribe** the proper fluoride dosage.

III. WATER SAMPLING PROCEDURE

The State Laboratory of Public Health will analyze water samples for health professionals. The procedure for ordering sample bottles is as follows:

1. Call or write the Laboratory of Public Health, specifying the number of fluoride sample bottles required:

Address: DHHS/Division of Public Health
State Laboratory / Bath Building
1918 Mail Service Center
Raleigh, NC 27699-1918
Phone: (919) 733-7656

2. The Laboratory will mail you the bottles and report forms along with a bill for $2.00 per bottle if you pay by check.
3. Collect the water sample to be analyzed, complete the report form and mail as instructed.
4. The results will be sent to the health professional indicated on the report form. There is no further charge for the analysis.

IV. REFERENCES

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